



THE PUBLISHER'S PAGE



Not for Sale

Or, Why Publishers Go Wrong

We have heard many views and many-sided opinions on trade paper policies, practices, ethics, etc., but the following assertion from a prominent confectionery supply firm takes the prize for misconception of the fundamental standards of a reputable business publication:

"The editors of your trade paper are directly in the employ of its advertisers. It is they who support your magazine and they are therefore entitled to have their views put across in your editorial columns."

WITH astonishment we listened to the above pronouncement from an indignant advertiser who was disgruntled at the manner in which we had sifted the "wheat," or legitimate news material, from the "chaff," or advertising propaganda, in treating some material which he had sent us for publication in our editorial columns. That the gentleman should be disappointed at his failure to put across a clever bit of indirect advertising was quite natural, but his indignation at our editorial censorship was entirely uncalled for.

From time to time we have taken pains to make clear to both advertisers and subscribers that our only purpose is to serve the candy manufacturers of America to the best of our ability and that it is to their interests solely that our editorial and news pages are devoted. They, and not the advertisers, are the true owners of this publication, since without their interest and confidence our legitimate advertising columns would be quite worthless. It is unfortunate that trade papers generally have not always subscribed to this principle, in fact, have often encouraged the supplier to expect a bonus of editorial favoritism in addition to the space he actually purchases. In our own case, we have always tried to lean over backwards in our efforts to keep our columns unbiased, impartial and free from any taint of subsidized opinion.

This divorce of the editorial from the advertising departments is a principle well-recognized in the newspaper field, where the actual revenue of the publication is even more dependent upon the income from

advertisements. You would hardly expect any reputable newspaper to insult the intelligence of its thousands of readers by championing the wares of its advertisers. The advertiser must get "value received" out of the space he hires to talk to the paper's subscribers. For example, R. H. Macy & Company is a department store which contributes largely to the advertising columns of many of the New York papers, yet we do not find front-page editorials extolling some new product or discovery of theirs such as "Supre-Macy Razor Blades," or even their rather original policy of maintaining "lowest-in-the-city-prices."

Furthermore, while the various institutes in the newspapers and housekeeping magazines do not hesitate to call attention to any new product or invention which they think will be of interest to their readers, they carefully refrain from mentioning the trade name of this product or the firm from which it can be purchased. If the reader is sufficiently interested, a personal inquiry will bring this information. Likewise, we of THE MANUFACTURING CONFECTIONER consider it a part of our services to comment upon and call attention to more important discoveries and products pertinent to our industry. We, too, will be glad to furnish details by letter on request, whether or not the firms benefiting are contributors to our advertising columns.

In other words, our advertising pages are open to all reputable firms who desire to call their wares to the attention of our subscribers. But our editorial and news section is not for sale.

EDITORIAL



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**A Specialized Technical and Commercial Magazine
for Confectionery Superintendents, Purchasing
Agents and Executives.**

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EARL R. ALLURED,
Editor - Publisher

Keep Your Eye on the Biscuit- Confectioner!

THE complacent candy manufacturer may well view with concern the rapid encroachment which the biscuit and cracker manufacturers are making upon the confectionery field. It is said that in improved equipment, plant control, and methods of marketing, they are years ahead of the candy manufacturer. Certainly, the elaborate and diversified confections which the biscuit factories are putting out to satisfy the nation's sweet tooth are in direct competition with many of our lines.

Many a candy superintendent would be amazed, upon walking through one of the large, up-to-date plants of certain of the biscuit companies, to observe not only the enormous volume of machine production, but the perfection of the individual machines which have been designed to meet their emergencies. The employment of great batteries of triple depositors, the most up-to-date enrobers, and various new, labor-saving inventions, combined with gravity or conveyor-handling of all major raw materials including sugar, automatic packaging and the like, have enabled them to produce more quickly and market more cheaply, their tremendous turnover of fancy confections.

Few outsiders have any idea of the huge

quantities of coatings, marshmallow, nougat, fondant, marzipan, fruits and nutmeats, not to mention the hundred and one other basic ingredients, which are competitively employed by this sister industry. Until very recently, the National Biscuit Company was credited with being the largest single user of pecan halves in the United States, and this, despite the fact these were all used in topping a single number. It is not alone the sales manager who has felt the steady pressure of this mass production, for the buyer, too, finds the limited stocks of all confectionery raw materials more actively competed for, to his ultimate disadvantage in price. Those who have had any occasion to buy a quantity of figs during the past season will recall with some bitterness what happened to bag Smyrnas when the biscuit people cleaned up the market to fill their seasonal requirements.

There is nothing inexplicable in the mushroom growth of this industry which now looms so formidable on the confectioner's horizon. Quantity production, the effective and complete use of up-to-the-minute machines and mechanical devices for handling and packaging, together with economy of distribution, furnish an interesting object lesson for the confectioner and one which should be investigated and analyzed more thoroughly than the space of this editorial will permit.

The Kid with His Nickel

The Foundation of Our Industry.

TWO things about the great American kiddies have been much noticed separately but seldom together.

One is that he is usually in quest of or in possession of a penny or a nickle and that these are bound on fast legs, when possessed, for the nearest candy store. The other is that the great American kid is brimming over with energy, vigor, and nervous force with which he drives hard and fast into all his favorite games.

That the second condition is intimately related to the first is now coming to be recognized by dietitians. Candy is mostly built of nature's fastest working energy

producer in the human body. When a child eats potatoes, or bread, or tapioca, its body has to work long and patiently to manufacture out of these starchy foods the sugars that are energy in its most available form.

Fed on starchy sugar sources alone and the child is bound to be slow for his production of energy is slowed up; for hours his stomach needs all his available energy for the complicated process of reducing the starch to sugar. But when he eats candy—then it is just pouring in energy from an electric wire. There is no lost motion or lost time or double drain upon strength. Vigor and nervous energy are merely the reaction to an ample diet of sweets.

Herbert A. Dodge, when speaking at the convention of the National Association of Confectionery Salesmen recently, captured more editorial space than any other speaker. He captured it with just one little sentence: "The kid with the penny is the greatest American candy buyer and the foundation of the Industry."

The kid is more than that. He is the great American society builder and the foundation of our national life. It is fine to know that the confectionery industry is based on the identical group on which the nation's hopes are founded and that its sweets help the kid to "do his stuff."

He Sold Himself on Sugar

STEPHEN H. LOVE, who now handles the affairs of the U. S. Sugar Manufacturers' Association, of which he is president, had an interesting and significant experience with candy when he was a young man in Utah.

President Love is, and always has been, an ardent devotee of rod and reel. One night he finished firing at the evening flight of the ducks and geese inhabiting the lower reaches of Bear River. It had been a strenuous day for him and his bag had been a good one. As he bent to the task of rowing towards the club house, he found that Bear River was flowing with an exceptionally strong current. He was tired and became exhausted. He dropped the oars, as rowing seemed futile, and wondered what he had better do. In his pocket was some sugar candy. He ate a handful of it and presently he sensed that his fatigue had disappeared. He now took hold of the oars with a will, and rowed strongly up to his destination. He looked back at the current that had baffled him without being able to explain his sudden increase of strength.

Later, when he became acquainted with sugar chemists and with the action of sugar, as the form to which all other energy producing foods must be reduced before the body can use this energy, he realized what had happened. He had eaten pure energy in the form of candy and it had gone right to work for him. Now he allows his children a goodly ration of candy and knows that he is only feeding them nature's best food in its most available form.

Corn Syrup Standard, Amended

As a guidance for officials in the enforcement of the Federal Food and Drugs Act the Secretary of Agriculture has adopted a revised and amended definition and standard for glucose (corn syrup).

The revision of the standard was recommended by the Food Standards Committee, a committee composed of three representatives each of the Association of American Dairy, Food and Drug Officials, of the Association of Official Agricultural Chemists and of the United States Department of Agriculture. The text of the revised definition and standard is as follows:

Glucose, mixing glucose, confectioner's glucose, is a thick, syrupy, colorless product made by incompletely hydrolyzing starch, or a starch-containing substance, and decolorizing and evaporating the product. It contains on a basis of forty-one (41) degrees Baume not more than one per cent (1%) of ash, consisting chiefly of chlorides and sulphates.

Whenever you find a man who has found something he loves to sell, that man is going to find a lot of other men who love to buy what he loves to sell.

Knowledge plus Love of Product (pride of craft)—there is the bride and bridegroom of good industry—progress is the offspring of this mating.

The great American desert is not, as Rand McNally says, somewhere west of the Rocky Mountains, but under the hat of the average American man and woman.

Whenever you hear the human tongue going at the rate of 1,200 revolutions per minute you know the grain is in neutral.

An expert is only an ordinary man away from home.

Ninety-five per cent of the constructive thinking in this country is done by 5% of the people. The natural thing is to be sloppy-minded.

Knowledge is not power—the application of knowledge is power.

We know a lot of men in America who are so busy collecting their salaries, they don't get time to earn them.

Candy Cost Finding

—in three parts—

How We Arrive at Candy Costs

The third of a series of articles on Candy Cost Finding and Accounting

By Deane M. Freeman

General Manager, F. H. Roberts & Co., Boston
Manufacturers of "Apollo" Chocolates

THE article in the April issue explained the necessity of the factory ledger for proper cost finding and its other advantages, especially as an aid in operating control. In a general way, an executive knows that the addition of new machinery, extra floor space or more helpers increases the overhead of the department, but unless a record of this is kept on paper he has no very definite idea as to how much these increases amount to. It is a great advantage to know promptly when increases occur and the exact cause of the increase, that the necessary economies can be effected immediately.

In plants where the factory ledger is used any increase in overhead will show up immediately, together with the items of expense causing such increases. Before commencing the actual work of figuring costs it is necessary to have standard departmental overheads established.

The factory ledger is the most effective means of establishing this. For this reason the factory ledger should be opened (along the lines suggested in the last issue) in advance of the actual figuring of costs. In addition it is equally necessary to list in detail the various standards governing the manufacture of each individual kind of confection. This information regarding each standard should include not only the manufacturing formulas, but such additional information as, for example, in the case of "hand-dipped goods," the following items:

1. *Scrap allowance*
2. *Size of Mogul pump*
3. *Mogul capacity in pounds per hour for the piece in question*
4. *Kind of coating*
5. *Percentage of coating per finished pound*
6. *Kind of string,*

and any other instructions needed to make up a definite and complete list of specifications for each and every variety of candy made. This is essential, as after these standards have been

set they should be used as a check on every batch to insure accuracy and uniformity. Costs cannot be accurate if the manufacturing standards are not carried out faithfully. Any variation from the manufacturing standards will result in a corresponding change in manufacturing costs. In fact, the great advantage of the use of standard costs as outlined in this series of articles is that the constant comparison of actual performance against standard shows up immediately any variation and thus indicates clearly and promptly any fluctuations in costs. It serves as an alarm clock to warn against possible losses and does this in time so that remedies may be applied before it is too late.

With the above information at hand it is possible to work up accurate standard costs, making use of cost forms similar to those illustrated herewith.

These particular forms are designed to show on one sheet the entire cost from cooking straight through to dipping or enrobing, together with complete specifications for manufacturing; and, further, to bring these costs through on the basis of 100 pounds of finished goods. An additional step is also allowed for in reducing the cost to the individual piece for ease in making up the *assortment* costs in fancy packages. But whether the costs are figured in units of pieces, hundreds of pounds, or thousands of pounds is a matter of personal preference, and, of course, makes no difference in the final results.

It will also be noticed that these forms are divided into the three cost factors: 1. Material; 2. Labor (productive); 3. Overhead. This permits the extension of the monthly production (described in the February issue) by these three factors. After allowances have been made for increase or decrease in goods in process it gives a direct tie-up with the general books. It has the important advantage of placing any errors in the correct factor, thereby showing whether it is in labor, material or overhead that

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How We Arrive at Candy Costs

(Continued from page 30)

the standard costs are at variance with the actual or book costs.

The cost forms reproduced on the two preceding pages are self-explanatory, and while those shown cover only chocolate-coated goods, other forms along similar lines can be made up for hard candy, fudges, pan or jelly goods.

Summary

These three articles, of which this is the last, on cost finding for the smaller confectionery plants, have dealt only with the simpler methods of costing. For example, no discussion has been made in regard to the machine-hour basis of overhead distribution, for while this method is an excellent one under many conditions (and particularly in the larger plants), it would be complicated and unwieldy in the average small plant. The net results

would be so nearly the same as those arrived at by the productive dollar basis that any differences would be negligible. One other basis of overhead distribution which is used considerably is that of the productive hour. The champions of this method emphasize the value of comparisons made possible (over a period of years) by the unchanging basis of the hour, and call attention to the fact that rates do vary and, therefore, comparisons under the system of productive dollar distributions are not an exactly true picture of the trend of a plant. There is a good deal of merit in this contention, but in view of the constant change in all industries, and particularly in the confectionery industry, it is questionable whether comparisons under the productive hour basis mean much, and certainly cost finding on this basis is more complicated for the small plant. It is a debatable question as to whether the value of a dollar fluctuates any more than the quantity of output secured per hour under our constantly changing labor conditions.

After a comparatively simple cost system has been installed and is working satisfactorily, it is possible to refine it so as to eventually include many desirable features not at first attempted, but most systems die an early death because they are too comprehensive at the beginning.

McPherson MacRobertson of Australia on Tour of United States

MR. AND MRS. MACROBERTSON arrived in Chicago August 10th. They were met by Walter Hughes and representatives of the trade press. Since June 24th, when they arrived at Vancouver, the MacRobertsons have enjoyed the hospitality of the confectioners of the west; they are enroute to New York and will return to Australia via Europe and the Suez. Mr. MacRobertson has been referred to in candy circles as the most sensationally successful confectioner in the world. His rise from a very humble beginning as a newsboy without funds to the sole owner of a confectionery manufacturing business capitalized at £1,500,000 and for past eight years the largest individual taxpayer in Australia, is an extremely interesting romance of achievement. He also holds a controlling interest in twenty-eight other industries, including a corn syrup refinery.

"On four things," said the *Seattle Post*, "he breaks into enthusiasm—the amazing growth of his candy business from a tiny corner in his mother's house, with a nail can for a furnace and pannikin to hold his syrup, to the present huge proportions, on the qualities of thrift, foresight, perseverance and love-of-the-job which made that growth possible; on his ability to train trick horses, and motion-pictures.



An Editorial

by A. Adams Lund

The War Over Corn Sugar

A digest of discussions on both sides of the question
and our conclusions from the confectioner's viewpoint

The Bill Pending in Congress

THIS BILL, officially called S. 481 and since named "The Corn Sugar Bill," providing for an amendment to the Pure Food Act of June 30, 1906, unanimously passed the Senate of the United States on January 30, 1926. This bill was presented to the House of Representatives at its last session and after much discussion, is being held over until the next Congress. As the bill now stands, it provides that

"confectionery, ice cream and similar frozen desserts, products of the bakery, meat or meat products shall not be deemed to be misbranded under the provisions of this act (The Pure Food Act) for failure to declare the presence of sucrose, dextrose, maltose or levulose."

In other words, manufacturers of the food-stuffs enumerated above shall be under no obligation to specify the sweetening agent used.

The Primary Purpose of the Bill

As explained to the Senate, the bill was designed to provide an additional outlet for the surplus of the corn crop, thereby tending to help the mid-West agricultural interests. Dextrose, which corn sugar really is, is to be put on an equal footing with sucrose, or cane sugar, in the manufacture of foodstuffs. Many people, however, and notably Dr. Harvey W. Wiley, who has often been referred to as the father of the pure food law, have seen in this bill a potential menace to the purity of our foodstuffs and the healthfulness of the nation.

So that our readers may form their own unbiased opinions on the merits of the bill and be prepared to take whatever action they think necessary, through their Congressmen, before the bill comes up for consideration again in the fall, we present both sides of the picture. We will present first,

The Case Against the Corn Sugar Bill

The arguments against the corn sugar bill are voiced by Dr. Harvey W. Wiley, noted physician and former chief of the Bureau of Chemistry of the U. S. Department of Agriculture, widely known as the father of the Pure Food Law. According to this authority, the Pure Food Act, which had been in effect exactly twenty years when the corn sugar bill passed the Senate of the United States, was designed solely for the protection of the American consumer, which means everybody in the country. It was not written into our laws in the interest of any one class, nor was it opposed to the interest of any one class unless it be that minority which brazenly indulged in the adulteration of foods and drugs at the expense of the rest of the public. It was a wholesome, pertinent and philanthropic piece of legislation.

In important particulars, the corn sugar bill seeks to reduce this very necessary law to a condition of impotence. It proposes to permit the adulteration of what every housewife knows as sugar, namely sucrose, with an inferior substance known as corn sugar, *made by the action of muriatic acid on ordinary corn starch!*

Costly Relief for Agriculture

The avowed purpose of the corn sugar bill is to afford relief to the American corn grower who appears to be suffering from over-production. In the eyes of many it is a doubtful remedy for the deranged economic conditions of the Middle West. To quote from an article by Dr. Wiley which appeared recently in the *Good Housekeeping* magazine:

"If this supposed relief to the American corn farmer is to be of any value to him, it must secure an enormous market of thousands of tons of predigested starch. The corn crop of this country is approximately three billion bushels. The use of a few thousand tons of Indian corn would be so small a drop in the bucket as to be practically useless in increasing the market for Indian corn. If there is benefit to the corn grower in increased prices, at least five hundred million bushels of corn would have to be utilized in this way to make any appreciable increase in the remaining crop of corn. . . .

"The question may be reasonably asked

Do You WANT Adulterated SUGAR?

The Senate of the United States has passed a bill permitting the adulterating of sugar with a product made from starch. This is a distinct threat to the health of every consumer.

SAYS

Dr. Harvey W. Wiley

Director Good Housekeeping Bureau of Foods, Sanitation, and Health

ON SATURDAY, January 30th, an amendment to the Pure Food Law passed the Senate of the United States. It was for the purpose of legalizing the adulteration of sugar, assuming that the adulterant of sugar, having been made from the corn grower and giving a wider market to the corn and relieving the depression due to the surplus of corn.

West Calling For Aid in Big Corn Slump

Coolidge Hurries Investigators to Iowa as 3-Billion Crop Breaks Price to 50c and Bank Failures Loom

By Carter Field

WASHINGTON, Nov. 7.—Wheat dumped on a market expecting to absorb 100 million bushels of corn on the 50 cent a bushel or better. President Coolidge has ordered the investigation of the situation in Iowa, where the crop is estimated at 3 billion bushels. The situation is serious, with bank failures and a general depression.

Wiley Sees Menace To Pure Food Law In Pending Bills

Father of National Act Warns Guests at 20th Anniversary Celebration That Starch Sugar Frauds Are Likely

WASHINGTON, Nov. 7.—Dr. Harvey W. Wiley, father of the National Pure Food and Drug Act, today warned his guests at the 20th anniversary celebration of the act that starch sugar frauds are likely to become a serious menace to the pure food law.

The Corn Sugar Argument

It is a disappointment not to be able to agree with so genial a critic as Dr. Wiley, whose comments on our corn sugar editorial we print to-day on another page. But facts constrain us. We must continue to believe, as we have said already, that the opposition to the pending bill commonly called the corn sugar bill confuses the mere form of food regulation with its essential object. This object, undoubtedly, is to protect the public from danger or fraud. It does not appear that either danger or fraud is imminent in what the pending bill would permit. The sugar of the sugarcane, which is also the common sugar of commerce, the chemists call sucrose. Its chemical formula is $C_{12}H_{22}O_{11}$, which means that it contains twelve parts of carbon, twenty-two parts of hydrogen and eleven parts of oxygen in each chemical molecule. This sugar occurs in many plants and fruits, but is made commercially mainly from cane and beets. Dextrose is the name of the sweet material produced when the starch of Indian corn is treated with certain chemicals or by certain fermentative processes. It also occurs in many fruits and plants. It is chemically simpler than sucrose, having the formula $C_6H_{12}O_6$. It can be formed easily from sucrose. Another sugar, called levulose, has the same chemical composition as dextrose, occurs with it in many fruits and is frequently formed with it by chemical processes. Glucose is a rather loosely used name for a mixture of dextrose and levulose.

High Lights from Dr. Wiley's Articles on Corn Sugar Do You Agree with Him?

IN HIS letter to the New York Herald Tribune dated June 13, 1926, Dr. Wiley informs us that the natural sweetness of corn on the cob is not due to dextrose:

"Your use of the term 'corn sugar' is a misnomer in itself. Those of us who have the privilege of eating sweet corn in season... have always enjoyed its sweet taste. You will not deny that this is due to the corn sugar. The sap which flows in the corn stalk, and which furnishes the corn sugar in sweet corn, is always sweet. In both cases the 'corn sugar' is the common sucrose of commerce. 'The corn sugar you speak of (dextrose) is made solely from maize, or corn, as we call it. It can be made also from waste paper and sawdust.'"

Elsewhere in his letters we are told:

"The Corn Products Company operates under four patents, thus securing a practical monopoly for the manufacturer of this sugar. The only benefit from this attack upon the food law will be for practically one manufacturing firm. All the profits it makes will be a direct tax on a defrauded public."

Dr. Wiley's contributions to the well-being of our country have been generous and far-reaching. In the corn sugar bill he sees what he believes to be a gradual tearing down of his life work, the pure food standards of the country. Whether we agree with him or not, we must regard his criticisms with fairness and respect.

West Calling For Aid in Big Corn Slump

(Continued from page one)

In painting a rosy picture of farm conditions in his comments on the business situation generally, the plight of the corn-growing states affords a striking contrast. It is due to a variety of factors that the corn-growing states are in such a predicament.

The Corn Sugar Bill

Dr. Wiley Opposes It as Designed to Undermine the Pure Food Law

To the New York Herald Tribune: I have read with much interest your editorial in the issue of May 10 entitled "The Corn Sugar Bill." Being an editor myself, I know the undecidability of getting into any controversy with another editor. It is what Virgil calls "impar congrederetur."

assurance going to be secured unless the label tells the truth? Why should adulteration of sugar used in confectionery, ice cream, bakers' products and not be permitted in other products? After all, the pending bill permits the adulteration of all our principal foods.

The only benefit from the food law will be for one manufacturing firm. It makes will be a direct tax on the public. Any help will get will be at the best and since grower. Peter to pay Paul. Corn growers have other their relief.

that I am prejudiced for if you will read a very you will see that we are over a period of in securing legislation for foods and drugs and adulteration. The gross of the United States this salutary placed the executive Bureau of Chemistry the honor to

so if there was not in your editorial the "venomous" action. The rest of the showing I am venerable. I am prejudiced in my opinion of the food law, per opinion of the venerable Food of the State of act, an opinion to each of the members of the state:

in ingenuity in character urge you to its passage. of an immense food law that with dextrose, factory, the bakery a fraudulent legislative machinery to get a equal weight into the to the have for tion to pur- apply.

Washington, D. C., May 12, 1926.

here, if we wish to benefit the corn grower, why should we do it at the expense of other farming industries? Every equivalent of adulterated sugar used in this way unknowingly by the American consumer will rob the farmers who produce sugar of an equivalent amount of sugar. The people who make sugar, therefore, would find it a drug on the market, and while the corn grower might be benefited, the cane grower, the beet grower, the sorghum grower and the maple tree grower would be, to this extent, injured. No benefit would come to agriculture at large to compensate for the deception and the injury to their health."

If dextrose is as good for the human system as sucrose, and its champions say it is, why not continue to sell it under that name? Corn sugar always has been sold as corn sugar and there is no apparent reason for changing now other than that the corn growers want to be enriched at our expense. The one obvious purpose of the corn sugar bill, so far as the followers of Dr. Wiley can discern, is to permit the manufacturers of food products to legally conceal from the public the fact that their goods have been sweetened by an inferior and substitute sugar. Is there any logic in the contention that we are showing unfriendliness to agriculture merely because we insist that they label their products in conformity with the truth?

Grave danger to the health of the nation is seen in the eventual effect of the passage of the corn sugar bill, for it introduces into the national diet huge quantities of artificial dextrose to take the place of the natural dextrose resulting from starch in the digestive process. In exceptional cases, where the normal digestive functions are already impaired, it may be all very well for the patient to take predigested foods, but it is the opinion of physiologists and medical men generally that continually feeding an animal predigested foods deprives the animal of the power to digest the more complicated foods in the normal and natural way, and that in time, provided artificial dextrose were to become a significant factor in our daily diet, our bodies would cease to secrete those enzymes which at present enable us to assimilate the starches and sugars which we daily consume.

Different Chemical and Physical Properties

Dextrose differs radically from sucrose in its chemical composition. Nor does it possess the same physical properties as cane sugar. It is different both in appearance and taste. True, it has some food value, but to provide for the indiscriminate use of this cheap substitute in place of the cane sugar we have always used is a move which cannot be supported by those who wish the purity of their food unimpaired. When

the housewife goes to the store for sugar, she expects to get sucrose, and it would be a gross fraud to allow the dealer to substitute corn sugar in place of cane sugar.

From a practical standpoint, is not one of the chief uses of sugar its power to sweeten and thus make more palatable the foods with which it is combined? The measure of the sweetening power of any sugar is known as the "saccharine value." The saccharine value of corn sugar is considerably less than that of sucrose.

The ready solubility of cane sugar, which permits it to dissolve quickly in your morning cup of coffee, is another of the assets of sucrose. Corn sugar is only half as soluble as cane sugar. Granting that its use may be perfectly satisfactory for some purposes, should the law permit it to be substituted generally for cane sugar?

The public has been educated to expect cane sugar when the word "sugar" is used, say the bill's critics, and nothing else should be allowed to masquerade under that name. Let corn sugar, where it is used, be called corn sugar. To that there can be no objection.

Legalizing Fraud

Mr. J. Q. Emery, Food and Drug Commissioner of the State of Wisconsin, in a letter addressed to the members of Congress, expressed himself as follows:

"This bill, so cunning in ingenuity and device, is so culpable in character that I am compelled to urge you to vote and work against its passage. Masquerading in the garb of an innocent amendment to the Pure Food Act, this bill virtually confesses that without amendment the use of dextrose, levulose or maltose in confectionery, frozen products, products of the bakery and meat products would be fraudulent; the bill virtually seeks to legalize this fraud. The bill is a cunningly and ingeniously devised scheme to get the nose of the camel, fraud, into the pure food tent. Any amendment to the national pure food law should have for its real purpose greater protection to the public rather than the ulterior purpose of further enriching monopoly. A more fitting title to this bill should be, 'A bill to subsidize special privilege by legalizing the practice of fraud.'"

Speaking of Chemistry

The supporters of the corn sugar bill argue that "sugar" is merely a chemical term applied to a class of carbohydrates of the formula $C_n(H_2O)_m$. According to this reasoning, dextrose is just as much sugar as is sucrose. But to take an analogy from this same field, chemists also call "salt" any substance of the formula XC_l . Common salt, or table salt, for in-

stance, is Na Cl. In food, "salt" can and does mean only common salt, sodium chloride. There are, however, any number of other salts, such as calcium chloride, potassium chloride, silver chloride, iron chloride, mercuric bichloride, etc. Some of these are highly poisonous to the human system. To propose that any chloride could be substituted for sodium chloride in the

manufacture of foods would be quite similar to what the corn sugar bill proposes to do with sugars.

That, gentlemen of the industry, is the case against corn sugar. Now suppose we yield the floor to the proponents of the bill and hear what arguments they have to offer in favor of this piece of legislation.

The Case For the Corn Sugar Bill

CANE and beet sugars are not the only sugars which may be used in the manufacture of food products. There are at least half a dozen recognized food sugars, but it is only recently that several of these have become commercialized, which is to say, it is only recently that the refiners have perfected simple and cheap methods of producing these sugars on anything but a laboratory scale. Thus dextrose, or corn sugar, is the first of the hexose sugars to attain a commercial status as a food sugar.

When the starch of corn (or in Germany potato is used) is treated with a catalytic agent such as hydrochloric acid, under heat and pressure, it is hydrolized into a sugar chemically known as dextrose, d-glucose, or grape sugar. This sugar can be obtained in a crystalline form of great purity, and in quantity sufficient to be used on a large scale as a sweetening and preserving agent.

Two patents have already been granted by the U. S. Patent Office for methods of using this sugar, one to create new textures in candy, and the other to preserve cold pack fruits and vegetables.

It is because of the fact that the Pure Food Act requires manufacturers to state on their labels the nature of the sweetening agent used in their products that the use of corn sugar has heretofore been greatly limited. The ignorance or skepticism of a large proportion of the public concerning the character and uses of this sugar, encouraged by the ardent opposition of a small handful of reactionaries, has been largely responsible for the hesitancy of these manufacturers to declare what they know to be a perfectly pure and wholesome product. Coupled with the fact that the corn farmers are having a particularly difficult time disposing of that part of their crop which is ordinarily exported, this outlet for one of the by-products of corn will not only open up a new and legitimate raw material to the food manufacturer, but help in some measure at least to maintain the price of corn. At the present time the per capita consumption of cane sugar in the United States is about a hundred pounds a year. The major portion of the cane used in the manufacture of this sugar, of course, comes from Cuba,

and it is the prediction of the more optimistic supporters of the bill that the acceptance of this sugar will gradually make the United States independent of any source of outside raw material for sugar.

The Popular Fallacy

In the popular mind there still exists a stigma against "glucose," or corn syrup, which is the in-between product in the manufacture of corn sugar. The word is derived from the Greek "Glukos," meaning sweet, though to this day it is ignorantly associated with glue and other products supposed to be made from sawdust, old rags, bone, etc. Manufacturers who used it in their candies or syrups kept it a deep secret because of its cheapness, and this combined with knowledge that chemicals such as sulphuric acid were employed in its manufacture, definitely aroused the suspicions of the public that no good could come of it. The history of Dr. Wiley's pronounced antagonism to corn sugar actually begins with the political efforts of the Corn Products Refining Company to remove this stigma by calling their product corn syrup instead of glucose.

Difference Between Corn Sugar and Corn Syrup

The present, highly-refined corn sugar differs from corn syrup in several important particulars, although the process of manufacture is practically the same. Crushing, shredding and washing remove from the husk and the gluten the starch in the endosperm of the grain. As previously explained, this starch is converted into sugar by hydrolysis, using hydrochloric acid as a catalyst. This simple chemical conversion is analagous to the process which takes place in the human body in the digestion of starches and other sugars, this identical acid (here known as gastric juice instead of hydrochloric acid) functioning as a catalyst in conjunction with the digestive enzymes. In the commercial process, the acid is neutralized leaving a small residue of sodium chloride, or ordinary table salt.

In the manufacture of corn syrup, the conversion is interrupted midway in the process and we get about equal proportions of dextrose (the corn sugar) and dextrin, an intermediate

product between starch and sugar. In the manufacture of the sugar, however, all of the dextrin is hydrolized into dextrose. So that apart from the fact that one is a liquid and the other a solid, the chief difference between corn syrup and corn sugar lies in the absence of dextrin and excess moisture in the corn sugar. And since dextrin is in the nature of a gum (although possessing high caloric value as a carbohydrate) corn sugar may be considered free from the most serious objection raised against the use of corn syrup as a sweetener and preserving agent.

As to Relative Sweetening Power

There is nothing so very *inferior* about corn sugar in respect to its saccharine quality. If we rate the sweetness of cane sugar as 100, corn sugar has a relative sweetness of 74. By this same standard, levulose, which is one of the products of the inversion of cane sugar, rates 73 per cent higher than cane sugar (173), while milk sugar, or lactose, only rates 16.

Where, as in certain classes of confectionery, ice cream, and syrups, the public pays for sweetness, there can be no fraud in the use of corn sugar since a greater quantity would have to be used in order to obtain the same sweetness. In many lines this cloying sweetness is neither needed nor desired and here the diminished sweetness of this nutritive carbohydrate is seen to be a distinct advantage.

Life Impossible Without Dextrose

Not only is there nothing about dextrose which is detrimental to the human system, but every bit of starch and other sugar which we eat must be converted into dextrose before it can be assimilated by the blood. Dextrose is the normal blood sugar required for the sustenance of plant and animal life, and without which there would be no life. Why, then, should it be necessary to label products which contain this substance as though it were some terribly dangerous and obnoxious material against which the public must be carefully guarded? Although corn sugar can never quite compete with cane sugar in the matter of relative sweetness, so far as wholesomeness and nourishment are concerned, sugar made from corn is in every sense the equal of sucrose even if it was a few hundred years behind in its commercial development.

This poppycock about the housewife going into the grocery store and having corn sugar foisted upon her instead of cane sugar, is sheer nonsense. A two-year-old could tell them apart both as to appearance and taste. Further than this, the corn sugar bill does not presume to introduce any measure which will permit corn

sugar to be sold in its original form as anything other than corn sugar! It does not permit its use as an adulterant either of cane sugar, honey, maple sugar or any other of the hundred and one staple articles which we recognize as basic raw materials. Its use without labeling is clearly restricted to certain classes of manufactured food materials.

Thus the opposition of the bee-keeping interests, housewives' leagues and the like, have arisen from a distinct misconception of the wording and terms of the bill. Honey does not fall under the classification of confectionery, bakery products, ice cream or meat, hence they need have no fear that the bill will legalize the adulteration of their product. And as for the wives of the nation, butter, when it is sold as such is not permitted to contain oleomargarine, yet there is no prohibition on the use of Crisco and other animal or vegetable shortening agents in the manufacturing of bakery products. The corn sugar bill specifically designates just four classes of manufactured product in which any one of four wholesome sugars may be used without mentioning the fact on the label.

Desirability of Differentiating Dextrose from Other Sugars

Corn sugar, as it comes from the corn products refiners, is plainly marked "corn sugar." The refiner has no interest in concealing the fact that it is corn sugar. Quite the contrary. Its methods of application are entirely different from those of cane sugar and the person who innocently mistook it for cane sugar would be apt to have a perfectly hectic time with it. He would be apt to come back for more. It differs radically from cane sugar both in solubility, melting point—not to mention lower sweetening power and greater susceptibility to crystallization. These are all factors which must be known and fully comprehended by the manufacturer beforehand, especially in the manufacture of confectionery. So it is hard to see how the refiner could possibly have any interest in disguising the identity or characteristics of his product.

To return for a moment to the question of relative sweetening power, it is well known that cane sugars have different saccharine coefficients according to the source of the cane and the method of refinement, but it would, nevertheless, be absurd to insist that your jar of marmalade be labeled "sweetened with cane sugar of 56.5 per cent saccharine quality." Sweetness being merely a matter of pleasing the individual palate, really has nothing at all to do with the controversy. What is just right for one person is too sweet for another and the manufacturer has to come pretty near pleasing

the average taste if his product is to remain on the market.

What Harm, Pre-digestion?

Being a predigested food which can be directly absorbed by the blood, dextrose is frequently administered by intravenous injections (hypodermic), in medical cases where the patient is incapable of absorbing food in any other way. But it does not follow that this sugar cannot be taken into the system in the usual manner, and in fact, it is widely sold to physicians, hospitals and milk stations where it is prescribed to be eaten with meals in place of the customary cane sugar. At the milk stations it is known as "baby sugar." Through its use in the diet of both infants and adults, many startling cures have been effected, the range of treatment extending from pernicious anaemia to serious nervous disorders, including melancholia and hysteria resulting from faulty metabolism.

To say that because we take this sugar into our bodies in predigested form (which is what we do every time we eat a bunch of grapes) we will gradually lose the power to secrete the digestive enzymes necessary to bring about the inversion of the starches and sugars in our daily food is about as absurd as to claim that if we play baseball, we will never again be able to play tennis. The human system being more or less dependent upon the vegetable and animal kingdoms, it should be apparent to every one that our bodies will always have enough to do in converting into dextrose the starches and sugars which flourish in those kingdoms.

And there you have the case in favor of corn sugar! You have now read both sides of the controversy. But the war is still on and it is

not too late for anyone to get in. The public press is doing its share to bring the fighting into the open and clear up the numerous misunderstandings which have arisen in connection with the interpretation of the wording of the bill. When the measure comes up before the House for reconsideration in the fall, we may hope that the atmosphere will have cleared sufficiently to provide a proper and unbiased perspective.

Without wishing to prejudice the readers' conclusions unduly, it is pertinent to remark that the most formidable adversary of the pending legislation, a man now well along in years whose medical counsels are respected throughout the length and breadth of the land, did not always feel as he does now with respect to the development of these products of corn. In Bulletin 59 of the Bureau of Forestry, Dr. Wiley stated:

"When properly made, it (glucose) is apparently as wholesome an article of diet as cane sugar, in fact, the starches which are consumed in our foods are all converted into glucose during the process of digestion."

And again, in an article of his published in the Popular Science Monthly in 1881:

"There is no reason to believe that a glucose or grape sugar (dextrose), properly manufactured, is any less wholesome than cane or maple sugar."

Then, emphasizing the progress of corn products in displacing our everyday articles of diet:

"Corn, the new American King, now supplies us with bread, meat and sugar which we need; as well as with whisky, which we can do without."

Corn sugar appears destined to play an important part in the manufacture of our future confectionery. That august and slowly deliberate body, the Senate of the United States, considered every argument advanced against the corn sugar bill, and then passed it without a single dissenting vote! Will the House?

(A brief article on the practical uses of corn sugar in the making of candy is being prepared for publication in an early issue.)



Amended Definitions and Standards for Milk Products*

For the guidance of the Federal officials in the enforcement of the Pure Food and Drugs Act the definitions and standards for Milk Products and also Fruit and Fruit Products have been amended as follows:

THE Secretary of Agriculture has promulgated for the guidance of officials in the enforcement of the Federal Food and Drugs Act revised and amended definitions and standards for milk and its products adopted by the Food Standard Committee. This committee is composed of three representatives each of the Association of American Dairy, Food and Drug Officials, of the Association of Official Agricultural Chemists and of the United States Department of Agriculture.

The revised standards and definitions include milk, pasteurized milk, homogenized milk, skimmed milk, buttermilk, goat's milk, evaporated milk, sweetened condensed milk, evaporated skimmed milk, sweetened condensed skimmed milk, dried milk, and dried skimmed milk. The text of the standards and definitions recommended by the committee is as follows:

1. Milk is the whole, fresh, clean, lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within fifteen days before and five days after calving, or such longer period as may be necessary to render the milk practically colostrum-free.
2. Pasteurized milk is milk that has been subjected to a temperature not lower than 145 degrees Fahrenheit for not less than thirty minutes, after which it is promptly cooled to 50 degrees Fahrenheit, or lower.
3. Homogenized milk is milk that has been mechanically treated in such a manner as to alter its physical properties with particular reference to the condition and appearance of the fat globules.
4. Skimmed milk is milk from which substantially all the milk fat has been removed.
5. Buttermilk is the product that remains when fat is removed from milk or cream, sweet or sour, in the process of churning. It contains not less than eight and five-tenths per cent (8.5%) of milk solids not fat.
6. Goat's milk, ewe's milk, etc., are the fresh, clean lacteal secretions free from colostrum, obtained by the complete milking of healthy animals other than cows, properly fed and kept, and conform in name to the species of animal from which they are obtained.
7. Evaporated milk is the product resulting from the evaporation of a considerable portion of the water from milk, or from milk with adjustment, if necessary, of the ratio of fat to non-fat solids by the addition

or by the abstraction of cream. It contains not less than seven and eight-tenths per cent (7.8%) of milk fat, nor less than twenty-five and five-tenths per cent (25.5%) of total milk solids; provided, however, that the sum of the percentages of milk fat and total milk solids be not less than thirty-three and seven-tenths (33.7%).

8. Sweetened condensed milk is the product resulting from the evaporation of a considerable portion of the water from the whole, fresh, clean lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within fifteen days before and ten days after calving, to which sugar (sucrose) has been added. It contains not less than twenty-eight per cent (28.0%) of total milk solids, and not less than eight per cent (8.0%) of milk fat.

9. Evaporated skimmed milk is the product resulting from the evaporation of a considerable portion of the water from skimmed milk, and contains not less than twenty per cent (20.0%) of milk solids.

10. Sweetened condensed skimmed milk is the product resulting from the evaporation of a considerable portion of the water from skimmed milk to which sugar (sucrose) has been added. It contains not less than twenty-four per cent (24.0%) of milk solids.

11. Dried milk is the product resulting from the removal of water from milk, and contains not less than twenty-six per cent (26.0%) of milk fat, and not more than five per cent (5.0%) of moisture.

12. Dried skimmed milk is the product resulting from the removal of water from skimmed milk, and contains not more than five per cent (5.0%) of moisture.

Standards previously established for cream and butter are as follows:

1. Cream, sweet cream, is that portion of milk, rich in milk fat, which rises to the surface of milk on standing, or if separated from it by centrifugal force. It is fresh and clean. It contains not less than eighteen per cent (18.0%) of milk fat and not more than two-tenths per cent (0.2%) of acid-reacting substances, calculated in terms of lactic acid.

2. Whipping cream is cream which contains not less than thirty per cent (30.0%) of milk fat.

3. Homogenized cream is cream that has been mechanically treated in such a manner as to alter its physical properties, with particular reference to the conditions and appearance of the fat globules.

4. Evaporated cream, clotted cream, is cream from which a considerable portion of water has been evaporated.

*Excerpts from Secretary's report.

MILK FAT OR BUTTER FAT

1. Milk fat, butter fat, is the fat of milk, and has a Reichert-Meissl number not less than twenty-four (40° C.) (24) and a specific gravity not less than 0.905. (40° C.)

BUTTER

1. Butter is the clean, nonrancid product made by gathering in any manner the fat of fresh or ripened milk or cream into a mass, which also contains a small portion of the other milk constituents, with or without salt, and contains not less than eighty-two and five-

tenths per cent (82.5%) of milk fat. By acts of Congress approved August 2, 1886, and May 9, 1902, butter may also contain added coloring matter.

2. Renovated butter, process butter, is the product made by melting butter and reworking, without the addition or use of chemicals or any substances except milk, cream, or salt, and contains not more than sixteen per cent (16.0%) of water and at least eighty-two and five-tenths (82.5%) of milk fat.

When purchasing milk or any of its products you should require that they conform to the above standards. You should not accept any milk or milk products of a lower degree of purity than the U. S. Standards.

Amended Standards and Definitions for Fruit and Fruit Products

As a guidance for officials of the department in enforcing Federal Food and Drugs Act the Secretary of Agriculture, upon the recommendation of the Food Standards Committee, has adopted revised and amended standards and definitions for fruit and certain fruit products. This Food Standards Committee is composed of representatives of the Association of American Dairy, Food and Drug Officials, of the Association of Official Agricultural Chemists and of the United States Department of Agriculture.

The complete text of the revised definitions and standards follows:

1. Fruit is the clean, sound, edible, fleshy fructification of a plant and is characterized by its sweet, acid, and/or ethereal flavor.

2. Fresh fruit is fruit which has undergone no material change other than ripening since the time of gathering.

3. Dried fruit is the clean, sound product resulting from the evaporation of the greater portion of the water from properly prepared fresh fruit.

(a) The term "sundried" is commonly used to designate the product dried without the use of artificial heat.

(b) The terms "evaporated" and "dehydrated" are commonly used to designate the product dried by the use of artificial heat.

4. "Cold-Pack" fruit is the clean, sound product obtained by packing, in a suitable container, properly prepared fresh fruit, with or without the addition of sugar (sucrose) and maintaining it at a temperature sufficiently low to insure its preservation.

5. Canned fruit is the clean, sound product made from properly prepared fresh fruit, with or without water and/or sugar (sucrose).

(a) by processing in a suitable, hermetically sealed container, or

(b) by heating and packing in a suitable container which is then hermetically sealed.

6. Preserve, fruit preserve, jam, fruit jam, is the clean, sound product made by cooking to a suitable consistency properly prepared fresh fruit, "cold-pack" fruit, canned fruit, or a mixture of two or of all of

these, with sugar (sucrose) or with sugar and water. In its preparation not less than forty-five (45) pounds of fruit are used to each fifty-five (55) pounds of sugar (sucrose).

A product in which the fruit is whole or in relatively large pieces is customarily designated a "preserve" rather than a "jam."

7. Glucose fruit preserve, corn syrup fruit preserve, glucose fruit jam, corn syrup fruit jam, is the clean, sound product made by cooking to a suitable consistency properly prepared fresh fruit, "cold-pack" fruit, canned fruit, or a mixture of two or of all of these, with glucose, or corn syrup. In its preparation not less than forty-five (45) pounds of fruit are used to each fifty-five (55) pounds of glucose, or corn syrup.

8. Fruit butter* is the sound product made from fruit juice and clean, sound, properly matured and prepared fruit, evaporated to a semisolid mass of homogeneous consistency, with or without the addition of sugar and spices or vinegar, and conforms in name to the fruit used in its preparation.

*This item has not been revised.

9. Glucose fruit butter, corn syrup fruit butter, as a fruit butter in which glucose, or corn syrup, is used in place of sugar (sucrose).

10. Jelly, fruit jelly, is the clean, sound semisolid, gelatinous product made by concentrating to a suitable consistency the strained juice, or the strained water-extract, from fresh fruit, from "cold-pack" fruit, from canned fruit, or from a mixture of two or of all of these, with sugar (sucrose).

11. Glucose fruit jelly, corn syrup fruit jelly, is the clean, sound, semisolid gelatinous product made by concentrating to a suitable consistency the strained juice, or the strained water-extract, from the fresh fruit, from "cold-pack" fruit, from canned fruit, or from a mixture of two or all of these, with glucose, or corn syrup.

12. Citrus fruit marmalade is the clean, sound, jelly-like product made from the properly prepared juice and peel, with or without the pulp, of fresh citrus fruit, of canned citrus fruit, or of a mixture of these, by cooking with water and sugar (sucrose). It contains, embedded in the mass, pieces of the fruit peel, with or without portions of the pulp of the fruit.

National Legislation of Interest to Confectionery Industry*

by *Walter C. Hughes*

Secretary-Treasurer, National Confectioners' Association

National Legislation

Very few of the bills introduced in the last session of Congress were of special interest to our industry. For this we are thankful. It is quite a relief to be free from the strain of watching special legislation in which the industry is vitally interested.

Several so-called "Corn Sugar Bills" were introduced. The purpose of these bills was to exempt entirely from the provisions of the Federal Food and Drugs Act of 1906 all manufactured foods in which corn sugar is used for sweetening or preserving, and making it unnecessary when corn sugar is used in such products to state on the labels that they contain corn sugar.

They were of special interest to manufacturers of jellies, jams, preserves and canned goods, but not of special interest to the candy industry, as there is no requirement under the law to indicate the names of the ingredients on candy labels.

Other bills of more or less interest to our members are as follows:

S. 575. This was the famous Gooding Long and Short Haul Bill. This bill would have amended the long and short haul provisions of the Interstate Commerce Commission Act by adding a paragraph to the fourth section of the act, prohibiting the Interstate Commerce Commission from authorizing the railroads to meet water competition.

It was vigorously opposed by practically all the trade and shipping organizations in this country and was finally defeated in the Senate.

Re Duty on Imported Cherries

H. R. 4086. This bill was introduced for the purpose of amending paragraph 737 of the Tariff Act, whereby the duty on import cherries in their natural state, sulphured or in brine, would be increased from 2 cents per pound to 10 cents per pound, and the duty on Maraschino cherries and cherries preserved in any manner would be increased from 40 per cent to 80 per cent ad valorem.

There has been very little effort at this session to force action on tariff bills. Congressmen are apparently adverse to taking any action

on such bills. This and other tariff bills in which we are interested will be carefully watched during the session which will convene on December 1st.

Re Revised Trade-Mark Law

H. R. 6248. This bill originated with the Patent Section of the American Bar Association.

Trade-mark and patent lawyers have long realized the imperative need of a complete revision of the trade-mark laws. A committee was appointed by the Trade-Mark and Patent Section to study the trade-mark laws and to report such changes as they deemed advisable.

The committee drafting the bill had in mind a complete revision of all the trade-mark acts, including the 1905 act, and those passed since that time.

When the bill was first introduced in Congress, considerable opposition developed to certain of its provisions. There was a very decided difference of opinion amongst trade-mark lawyers as to whether it was an improvement over the present law.

The bill as originally drafted by the committee was introduced in both Houses of Congress in 1924. It was reintroduced at the beginning of the last session, referred to the Committee on Patents, and a hearing set for March 25, 1926.

I attended that hearing and spoke in opposition to the bill. The meeting was attended by prominent trade-mark lawyers from all sections of the United States, some in favor, but the majority of whom were opposed to the bill in its present form.

I stated to the committee that in my opinion the bill would not clarify the situation relative to the trade-mark law, but would, on the other hand, be more likely to increase the confusion and uncertainty already existing, and that inasmuch as considerable opposition to the bill had developed, as shown by the arguments presented to the committee, the only thing to do under the circumstances was to take no action thereon.

The bill will not be reported out by the committee, but will probably be amended and reintroduced at the next session.

*From N. C. A. Bulletin, August 10, 1926.

Re Showing Date When Packages Are Sealed

H. R. 10502. The purpose of this bill was to amend the Federal Food and Drugs Act of 1906, and contained a provision that an article of food would be misbranded

"If in a hermetically sealed container and if the date on which such container was sealed is not plainly and conspicuously marked thereon or on a label attached thereto."

While it was intended undoubtedly to apply only to certain kinds of canned foods, at the same time its provisions were so broad that it would be doubtful as to whether, if enacted into law, it might not have been interpreted also to include candy packed in sealed containers, such as glass jars and tin cans.

No action had been taken on the bill at the time of dictating this report.

Re Duty on Oil of Peppermint

H. R. 11254. This bill provided for an amendment to paragraph 59 of the Tariff Act, increasing the duty on imported oil of pepper-

mint from 25 per cent to 100 per cent ad valorem.

The probable purpose of the bill was to place a prohibitive duty on Japanese peppermint oil, more correctly designated as "Corn Mint" or "Field Mint" oil. Such oil has a very high menthol content. For that reason it is not satisfactory for use in candy and other food products. After being redistilled, it may be used, but the food products in which it is used must be labeled that they are flavored with Corn Mint or Field Mint oil. They cannot be legally labeled as being flavored with peppermint oil.

However, if this bill should become a law, the effect might be to raise the price of domestic peppermint oil to a prohibitive figure. It is near that point now and a further increase would be serious. The bill will not likely be acted on at this session, and we will keep a close watch over it at the next session, when it will probably come up for consideration with other tariff measures.

State Legislation

This is a so-called "off year" in state legislation. Only ten Legislatures were in session, some of which have adjourned, as follows: Kentucky, Massachusetts, Mississippi, New Jersey, New York, Pennsylvania, Rhode Island, South Carolina, Virginia and Washington.

LOUISIANA

In Louisiana there is a general license law imposing a tax on 25 classes or kinds of retail dealers, including retailers of soft drinks and "confections." The amount of the tax is determined by the amount of the retailer's sales.

I requested Mr. Thomas J. Hickey, our General Counsel, to draft an amendment to this law, which I have forwarded to Mr. O. B. Elmer, the chairman of our State Legislative Committee for Louisiana. This amendment exempts candy from the requirements of the bill.

The Louisiana Legislature is now in session, and we will make every effort to have the law so amended.

MINNESOTA

The revised regulations issued by the Food Commissioner now permit the use of certified coal tar colors in candy, soft drinks, beverage concentrates, fruit syrups, soda fountain syrups and soda fountain fruits.

Such colors may, therefore, be used in practically all products sold by our members.

Certified coal tar colors may now be used in candy shipped anywhere in the United States.

WISCONSIN

The 1925 amendment to the Wisconsin Food Law establishes a standard for "modified fruits."

Such fruits when sold in Wisconsin must be labeled "Modified." This applies to cherries and other fruits which have been processed or prepared in the manner described in the law.

The Food Commissioner has issued a regulation to the effect that when "Modified cherries are chocolate coated or covered, they must be labeled 'Chocolate coated modified cherries.'"

VIRGINIA

A bill was introduced in the Virginia State Legislature requiring the name and address of the manufacturer and the net weight on all packages containing food products, with no provision for tolerances or exemptions of small packages. Being at variance with the Federal Pure Food and Drugs Act, I reported it to Mr. H. H. Harris, the chairman of our Virginia Legislative Committee, who made an immediate investigation and learned that the real purpose of the bill was to give Smithfield, Virginia, the sole right to use the word "Smithfield" on cured hams.

Through the efforts of Mr. Harris and Mr. P. M. Smith, the features of the bill which were objectionable to our industry were eliminated.

Federal Trade Commission

The Federal Trade Commission has issued a

number of cease and desist orders in complaints relative to resale price control.

Some of these cases have been appealed to the Federal courts, to which I refer elsewhere in this report. These cases are of special interest to our members on account of the prevalence of price-cutting in the industry. This subject is of such importance to the industry that we have assigned it a special place on the program for Thursday afternoon.

One complaint filed with the Commission, in which we are especially interested, is Docket No. 1304. After the Commission had made a thorough investigation and had heard the defense of the firm against whom the complaint was filed, it issued an order to cease and desist

"from directly or indirectly selling or delivering or offering to sell or deliver to wholesale or retail dealer-vendees, with or in connection with the sale of candy in interstate commerce, other articles of merchandise, either candy or other commodities, in connection with any scheme or device of lot or chance whereby certain of the consuming purchasers of said candy from said dealer-vendees, determined by such scheme or lot or chance, receive said articles of merchandise in addition to said candy without further cost to such purchasers."

This decision is of the greatest importance to the candy industry. If sustained by the Federal courts, as I hope it will be, it will establish a valuable precedent and go a long way toward eliminating the sale of scheme and chance packages which are a menace to the industry.

A similar complaint has been filed against another candy manufacturer and is now pending.

Scheme and Chance Packages

The elimination of the sale of scheme and chance packages and the use of punch boards and raffle cards, in my opinion, will never be accomplished until we have a Federal law absolutely prohibiting their shipment in interstate commerce.

Even if we had such a law, such packages could be shipped in intrastate commerce (within the state) without interference on the part of the Federal Government, which has no jurisdiction over such shipments.

However, all the states have laws which, if enforced, would effectively prevent the sale of such packages and the use of punch boards and raffle cards.

The lottery laws of all of the states contain a provision substantially to the effect that whoever sets up or promotes or operates any kind of a device with the intention to dispose of personal property by chance, dice, lot numbers, game, hazard, or other gambling device, whereby such chance or device is made an additional inducement to the disposal or sale of said property, is operating a gambling or lottery device within the meaning of the law, and the person

operating such gambling or lottery device is subject to a heavy fine, and jail sentence in some cases.

The enforcement of these laws, however, is entirely within the jurisdiction of the prosecuting attorneys of the counties in which the offense occurs.

Therefore, for the purpose of securing the co-operation of these prosecuting attorneys, I wrote to the Attorneys-General of all of the states, told them what we were trying to accomplish, and requested them to send me a list of all of the prosecuting attorneys in the various states.

I received replies from 41 states. I, therefore, have in my files the names and addresses of several thousand prosecuting attorneys. No doubt I will receive this information from the other seven states, which at the time of dictating this report, had not answered my letter.

Therefore, we are now in a position to report directly to the prosecuting attorney in any county in the United States any violation which may occur therein of the lottery laws of the various states.

In all cases of this kind it is, of course, necessary that the name and address of the retail dealer who operates the scheme or device shall be given; in other words, definite information relative to the violation, so that the prosecuting attorney can take action when I write him in reference to the offense.

With your co-operation and the co-operation of these prosecuting attorneys, I believe that we can accomplish splendid results in bringing about the elimination of this form of gambling which is such a menace to the candy industry.

I want to mention in this connection the splendid co-operation that I received from Hon. C. B. Griffith, the Attorney-General for Kansas. Upon receipt of my letter, he wrote me a prompt reply, stating that he would be only too glad to co-operate with us in every possible way to bring about the elimination of the gambling devices to which I referred, which are commonly used in connection with the sale of candy at retail. He also stated that he had sent a copy of my letter to the *Kansas Municipalities*, a magazine published by the state that is mailed to all of the municipal officers of the various towns and cities in the state. After my letter was published in that publication, I received a great many newspaper clippings of editorials that had been written by various newspaper editors all over the state, commending our Association for the stand that it had taken relative to the use of gambling devices in the candy industry.

(Continued on page 46)

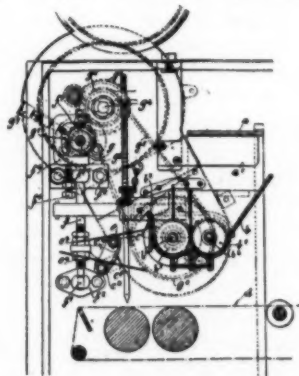
WHAT'S NEW?

New Patents

1,593,006. Apparatus for the Coating of Confections. George Ralph Baker and Ronald Head, London, England, assignors to Baker-Perkins Company, Incorporated, White Plains, N. Y., a Corporation of New York. Filed September 23, 1924. Serial No. 739,304, and in England November 10, 1923. 4 Claims. (Cl. 91-3.)

1. In apparatus for coating confections, the combination with a container for a coating substance of a distributing vessel adapted to receive the coating substance from said container, one or more inclined vibratory surfaces within said distributing vessel and down which the coating substance passes by gravity and means for imparting vibratory movements to said surface or surfaces to expel air from the coating substance in its passage thereover.

3. In apparatus for coating confections, a distributing vessel for coating substance comprising a conical ex-



terior wall having an outlet at its base a plurality of inclined surfaces within said vessel and means for imparting rapid vibratory movements to said inclined surfaces.

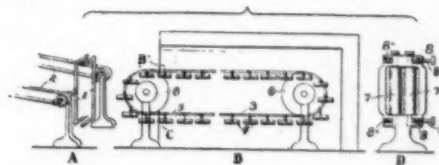
1,589,666. Confectionery-Cooling Device. Lawrence Bell Smith, El Dorado, Ark., assignor of one-third to Tom Marlin, El Dorado, Ark. Filed September 20, 1922. Serial No. 589,337. 3 Claims. Cl. 34-12.)



3. An apparatus for cooling confections and the like comprising a platform, an open ended casing mounted upon said platform, containers for refrigerant material surrounding the inner walls of said casing, an

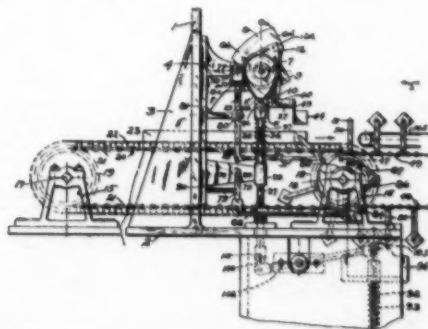
endless conveyor belt supported by pulleys mounted on the platform at the ends of the casing, said belt passing within the casing in one direction of travel and outside the casing on the return direction of travel, and propulsion means for the belt mounted upon the platform.

1,592,418. Process of Making Candy. Charles H. Butler, New York, N. Y., assignor to The Sweets Company of America, Inc., New York, N. Y., a Corporation of Virginia. Filed Oct. 20, 1925. Serial No. 63,770. 5 Claims. (Cl. 107-54.)



1. A process of treating pulled candy, which consists in subjecting the candy to the action of dry heat after the candy has been pulled, then altering the grain structure of the candy by subjecting it to high pressure.

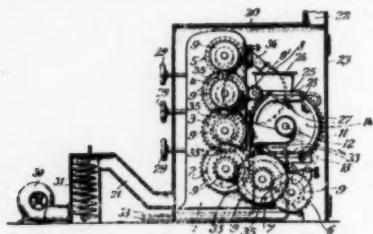
1,589,548. Confection Cutting and Coating Machine. Joseph Francis O'Byrne, Golden, Colo. Filed July 18, 1922. Serial No. 575,907. 10 Claims. (Cl. 91-14.)



1. In a confection making machine in combination a movable cutting table adapted to receive a slab of confection, a cutting device adapted to cooperate with the table surface and to cut blocks of confection from said slab, means for moving said blocks from the cutting table, means comprising pins for receiving said blocks as they are removed from the table, means for moving said pins away from their block receiving position and to substitute other pins in this position, and means for submerging said blocks in a bath of liquid edible material adapted to harden in place and to produce a coating on said confection.

Digest of Technical Literature—Continued

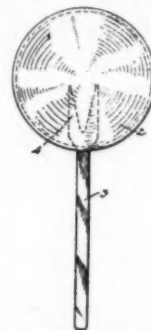
1,591,979. Method and Apparatus for Preparing Chocolate. Werner Iff, Flawil, Switzerland, assignor to the Firm Gebrüder Bühler, Uzwil, Switzerland. Filed Nov. 10, 1924. Serial No. 749,096, and in Switzerland Aug. 22, 1924. 4 Claims. (Cl. 99—11.)



1. An installation for preparing chocolate, comprising a rolling mill for treating the ingredients, at least one mixing and kneading trough operatively connected to said rolling mill, a casing totally enclosing said roller mill and said troughs and means for supplying hot fresh air to said casing and for discharging the used air from the latter.

2. The art of preparing chocolate, which comprises mixing the chocolate ingredients, grinding the mixture and effecting caramelization, all of said operations being effected in a current of hot air.

1,593,858. Confection. Robert W. Venable, Romeo, Mich. Filed Feb. 12, 1923. Serial No. 618,524. 1 Claim. (Cl. 99—16.)



Means adapted to facilitate handling a confection and which means forms part of the confection until the confection is consumed, said means comprising a wide stick having flat diverging tines about which the confection is formed with the confection enclosing the tines, said stick having a handle portion extending from a wall of the confection and provided with facets throughout the length thereof and in the same plane as said flat tines and upon which handle facets advertisements may be placed.

National Legislation

(Continued from page 44)

Court Decisions Relative to Resale Price Control

The Federal courts have rendered several important decisions relative to resale price control.

The most important of these cases was the one against the American Tobacco Company. In all of these cases the same legal principles were involved. The defendants attempted to control the prices at which their products were sold to the retailers or to the consumers, in some cases both, by entering into agreements with the jobbers or retailers, as the case might be, that their products should be resold at certain stated prices fixed by the defendants.

All of these decisions confirmed the undisputed right of a manufacturer, in the absence of any purpose to create or maintain a monopoly, who is engaged in an entirely private business, to freely exercise his own independent discretion as to the parties with whom he will deal, and he may announce in advance the circumstances under which he will refuse to sell. He may not, however, enter into any agreement or understanding with his customers as to the prices at which they shall resell his products.

In all of these cases the four important points to be kept in mind are:

First. That jobbers who cut prices could not be regarded as desirable customers, for the reason that they would be willing for their own short-sighted selfish interest to sac-

rifice the company's business welfare and the business welfare of the other jobbers who would secure a fair and reasonable profit and who would be desirable customers.

Second. The right of the company to refuse to sell jobbers who cut its suggested prices was affirmed by the court.

Third. The prices at which the retailers sold the company's goods to the consumers were in no way involved in the case.

Fourth. And most important of all, that the company acted independently and individually and did not enter into any understanding or agreement with any other competing agency.

Therefore, they uphold the right of a manufacturer to refuse to sell "price-cutters," but they also decide that a manufacturer may not enter into an agreement with his customers relative to resale prices, as I have stated.

I am thoroughly in accord with the idea that to be of the greatest benefit to the industry this Association should take the lead in all matters of general interest and work in close co-operation and harmony with local associations in all matters pertaining to the general welfare of the industry.

A plan to bring this about will be submitted for your consideration at a later session of the Convention.

Advertising and Educational Financial Campaign

PROGRESS BULLETIN

National Confectioners' Association

C. S. CLARK Financial Campaign Director

1627 Locust Street

St. Louis, Mo., August 12, 1926

Number Six



HE pledges to the Advertising and Educational Fund of the National Confectioners' Association now total \$653,189.00. This is a gain of \$20,831.00 since our last report. In spite of the summer vacation period and the very hot weather in certain sections good progress is being made in the securing of pledges. Several of the finance chairmen and representatives are active and planning intensive drives for pledges during the next ten days.

Improving Business Conditions

Mr. V. L. Price, president of the National Confectioners' Association, just prior to leaving for his vacation summed up the general conditions in the confectionery industry throughout the country as being far from satisfactory. Mr. Price is in close touch with business conditions having had an opportunity to talk with salesmen, jobbers and retailers in various sections of the United States during the past few weeks. In his statement Mr. Price said: "Business in the confectionery industry is far from being satisfactory and is not going to grow any better automatically. It is my belief that the greatest opportunity to improve unsatisfactory conditions, increase productions and profits is through cooperative advertising and educational work. Other industries have adopted this plan successfully and with satisfactory results."

Manufacturing Retailers Benefit Most

The manufacturing retailers realize that there is no class of the industry that will be more directly benefited than their own, because they have a more direct contact with the consumer of candy and a far better opportunity to tie up directly with the cooperative advertising plans. Howard H. Fiske, a member of the Executive Committee of the Associated Retail Confectioners of the United States, and the proprietor of Fiske's Candy Shops, Cambridge, Mass., is actively engaged in enlisting the support of the members of the A. R. C. and other of the leading retailers throughout the country.

Keep Your Eye on Chicago

Chicago is one of the important centers of the candy industry and a number of very substan-

tial pledges have been made by manufacturing confectioners. There has, however, been unavoidable delay in starting an active campaign for pledges. The finance committee, composed of George H. Williamson, Williamson Candy Company, chairman, Bunte Bros., Cracker Jack Company, Reed Candy Company, Schutter Johnson Candy Company and the Schotwell Manufacturing Company began the active soliciting of pledges last week and the committees in other large cities realize that "full speed ahead" will be necessary to maintain any advantage that they may now have.

Increasing Sales Ten Cents Per Person

Have you ever stopped to figure if our Advertising and Educational Campaign increases the retailer's sales to 10 cents more to each customer, with proper cooperative sales effort, what it totals annually? Fifty daily customers means a yearly increase of \$1,530 in volume. 100 customers means \$3,060. 200 customers means \$6,120. 500 customers means \$15,300 and 1,000 customers means \$30,600. Is this goal worth one-fifth of 1 per cent of the annual sales of the industry? Your pledge will be your answer.

* * *

Anti-Candy Propaganda Hurting Business

The following letter, one of a series written by George H. Williamson of the Williamson Candy Company to manufacturing confectioners in Chicago, is of interest to all subscribers and prospective subscribers to the Advertising and Educational financial campaign fund:

"A middle west metropolitan newspaper gives as much space to a 'poison candy' story as it does to the report of the increase in the price of gasoline.

School children in a Rocky Mountain city sing a song every morning to the effect that they put their pennies in the bank instead of spending them for candy.

A dentrifice advertisement tells in glaring headlines of the havoc wrought by candy.

Such anti-candy propaganda is appearing constantly from various sources in our newspapers and magazines. It's hurting your business and mine! Our net profit at the end of the year is less than it should be—and could be—because of such attacks on our industry.

What are we going to do about it? I can't do much alone. Neither can you. But you and I and the rest of the 500-odd manufacturers in the United States can, by united effort, accomplish much to correct this situation.

The need certainly is apparent. Our program must

be dominating. It must be continuous. The help of everyone in the industry is required. We have a real story to tell the public. And it must be told."

A New Idea on Advertising Candy

Under the direction of Harry R. Wilson of the Fisher-Brown Advertising Agency, a new idea for a series of advertisements on candy is being worked out to be used at some future date. The idea is based on the fact that light dispels darkness and correct information dispels misinformation. That one of the best ways to create a favorable impression for the product candy as a food and to overcome existing prejudice is a series of advertisements on the different food products that enter into the manufacture of candy. One advertisement is proposed on sugar, showing the part that sugar plays in the diet and manufacture of candy; another on milk, another on chocolate, gelatine, nuts, fruit, etc. Efforts are now being made to gather all possible information and data for this series of advertisements through individual members of the allied trades and secretaries of associations in the allied trades. Mr. Wilson is making every effort to make these advertisements as authentic and constructive as possible, not only for the candy industry, but for the members of the allied trades. The date of release of this series of advertisements is not ready to be announced, but it will follow along at the proper time and place in the general co-operative plan.

Send Your Pledge Promptly

The man who has been dilatory in sending in his pledge is holding up the inception of the campaign and is not being fair to his fellow members of the industry. You may be hesitant about sending in your pledge because conditions may be bad in your local territory with price cutting and bad practices. How are you going to make these things any better, and how can they be better unless you make an investment to increase consumption and for educational purposes to remedy them? The sooner the advertising and educational campaign starts, the more quickly will competitive conditions improve and the less expensive will these bad conditions be to you.

No Over Subscriptions in Sight

Information has reached us from several points in the country that a number of people think that the advertising fund will be over-subscribed. No such result is apparent at the

present time, and holding up pledges for this reason, or to see what your competitor is going to do, is not good sportsmanship. One of the best things that could happen to the candy industry would be a liberal over-subscription to the advertising fund, because it would mean that a bigger, more thorough job could be done along trade extension lines, educational lines, and in the use of consumer media. The bigger the job that can be done, the better your chances are for greater results. We cannot help feeling that it is wrong for a man to hold up his pledge or think about his contribution on the basis of the aggregate money involved. On the other hand, a man should pledge what he can afford, what he is willing to invest for the betterment of conditions and for the future improvement of his business. Certainly, one-fifth of one per cent is not a burdensome amount.

Let's finish the job up and finish it right! If you have not sent in your pledge, figure it out and send it in today; and if you feel that your previous pledge has not been liberal enough and you want to increase it, advise the amount of the increase you wish to make and the matter will be kept confidential, as the amounts of the pledges are not being made public.

Report of Pledges for Period Ending August 9th

The following is a report of quotas and pledges received to the Advertising and Educational Financial Campaign Fund up to date, August 9, 1926:

Amount pledged to July 19, inclusive. . \$632,358
Amount of pledges received July 19 to August 9 20,531

Total amount received to date. . . . \$652,889

| | Quotas | Pledges as of August 9th |
|------------------------------|-------------|--------------------------|
| New England States. | \$ 273,000 | \$146,005 |
| Eastern States. | 705,900 | 237,946 |
| Central States. | 624,700 | 159,160 |
| Southern States. | 111,750 | 22,020 |
| Southwestern States. | 95,200 | 62,725 |
| Northwestern States. | 42,300 | 25,328 |
| | \$1,852,850 | \$652,884 |

NOTE.—Quotas for each state and city are based on one-fifth of one per cent of annual sales for three years and include an estimate of the amount we should secure from the allied trades and supply houses.

Arthur F. Miller Joines J. W. Greer Co.—The J. W. Greer Co., of Cambridge, has added Mr. Arthur F. Miller of John Werner & Sons, Inc., to its sales staff.

Monthly Digest of Current Technical Literature

of direct or indirect relationship to the confectionery industry

THE chemical press and other scientific literature of America, also of Germany, France, England, Italy and other foreign countries, contains from time to time some discussions which have an important bearing on the technical phases of the confectionery industry. The reliable scientific publications of the world are being searched each month for this material which will hereafter be digested and presented in the following form in this publication. If desired, we are in position to furnish photostatic copies of original articles at 25c per page.

The Influence of Storage Conditions on Certain Essential Oils. By R. A. Konnerth. American Perfumer. V. 20, p. 625. In an endeavor to determine to what extent the factors of temperature variation, exposure to light, air or oxidation, contact with container, etc., might be responsible for deterioration, a series of experiments was conducted on anise, lemon, terpeness lemon, orange, peppermint and clove oils, with the following results: The oils examined undergo the least deterioration if stored in bottles under nitrogen. Storing the oils in tin at room temperature causes rapid deterioration in odor and darkening in color. At low temperature, the development of a darker color and impairment of odor are somewhat retarded. Lemon oil keeps fairly well in tins if under nitrogen; the terpeness product retains its fragrance though darkening in color to a deep yellow if stored in amber glass bottles under nitrogen. Oxidation and exposure to diffused daylight cause a dark orange-yellow and a very disagreeable odor. Complete data are not available on tin storage since those specimens were lost after six months observation. Indications were, however, to the effect that this oil does keep fairly well in tins. Orange oil keeps better at room temperature than in the refrigerator. It also keeps well in tin under nitrogen. Light hastens the darkening of color. Peppermint oil is more stable than the other oils but is subject to a decided color change when in contact with tin. Protection from light retards the development of color and impairment of odor. Oil of cloves is rapidly affected by oxidation, passing from colorless to dark reddish-orange. Storage in tins causes rapid deterioration in color. Reduced temperature retards both odor and color.

Duty on Glucose. The government of San Salvador has reduced the duty on glucose in sirup form for the manufacturer of confectionery and sweetmeats from 20c to 5c per gross kilo under section 16, chapter 1 of the San Salvador tariff.

Branding Imported Goods in England. Under the terms of a merchandise bill now pending in the British Parliament, imported goods of any class or description to be used in the United Kingdom may not be sold unless they bear an indication of origin. This is a government measure introduced by the president of the Board of Trade. The act of 1887, which is modified by the new bill, made it obligatory to state the name of the country of origin only on such merchandise as was offered for sale under a name or brand that would lead the buyer to believe that the goods were of British origin.

A Concentrated Apple Juice. Pharm. Ztg. V. 71, p. 58, 1926. A new concentrated apple juice prepared by heating in a vacuum under reduced temperature, has just made its appearance in industry under the name of "Pommeler." A sample of this product was a clear reddish-brown viscous fluid having the odor and taste of fresh apples. The moisture content was about 27%.

Adulterated and Artificially Colored Butter. Dr. Harvey W. Wiley, former chief of the Bureau of Chemistry, in a letter to U. S. Senator Ellison D. Smith, states that there are now on the market millions of pounds of butter made from rotten cream by what is known as "the neutralizing process." "Every pound of this butter goes into consumption under fancy dairy names. It is undoubtedly an adulterated butter and is covered by a law already in existence, and yet not a single pound of it is marked as adulterated butter or pays the tax now laid on adulterated butter of ten cents a pound." Dr. Wiley expresses the hope that the bill introduced by Mr. Beck, H. R. 5188, may be amended to provide that butter artificially colored shall be regarded as taxable at ten cents a pound, and all butter made from cream which has been treated with chemicals shall be classed as adulterated butter and pay a ten cents a pound tax. It is suggested that all dealers handling such adulterated

or colored butter shall be required to pay the same fees as are now required of those who deal in oleomargarine.

Viscosity and Whipping Properties of Milk and Cream. By J. C. Herring and A. C. Dahlberg. In the *Milk Plant Monthly*. V. 15, p. 37. The viscosity of milk and cream increases with the percentage of fat, irrespective of their treatment, providing the treatment was held uniform. The same general statement is true for whipping properties. Cream which has had its viscosity increased mechanically (by homogenization) whips in a shorter time but with less volume. Milk immediately cooled to 37-40° F. in a tubular cooler always yielded a cream of great viscosity. This indicates the probability that the clumping of the fat globules was largely responsible for the viscosity effect in cream. Experiments conducted with a MacMichael viscometer and a microscope substantiated this finding.

Maple Sugar Confections. A. Brown, U. S. Patent 1,576,084, March 9, 1926. Maple sugar cakes are placed on wire screens in a container, treated with maple sirup which has been boiled to a temperature of about 107-10 and then cooled to about 50-53°. The mass is allowed to set for about 12 hours.

The Determination of Invert Sugar in the Presence of Sucrose. By R. Ofner. In the *Z. Zuckerind. cechoslov. Rep.* V. 50, p. 65-71. Ofner describes a new solution for the determination of invert sugar in the presence of cane sugar.

Piperonal (heliotropine) in Vanilla Extract. By C. B. Gnadinger. *Journal of Industrial & Engineering Chemistry*. V. 18, No. 6, p. 588-9. The use of piperonal in vanilla extract is largely due to the belief that this substance is a natural constituent of vanilla beans. Krebs called attention to the heliotrope odor of Tahiti beans, while Busse and Goller suspected that both vanillons and Tahiti beans contained piperonal. Examination was made of Mexican, Bourbon, South American, Java and Tahiti beans but it was impossible to isolate piperonal from any of the specimens.

Milk Powders as Food. By L. T. Anderegg and V. E. Nelson, in *J. of Ind. & Eng. Chem.* V. 18, No. 6, p. 620-2. There is a marked difference in the nutritive value of whole and skimmed milk powders entirely aside from the butter fat content. Observations are recorded in connection with the existence vitamin E. When cod liver oil is incorporated in skimmed milk powder diets as a source of fat-soluble vitamins, it undergoes decomposition giving rise to products strongly suggestive of acrolein. Other highly desiccated materials also induce this decomposition. The addition of ethyl alcohol, wheat oil or water to such mixtures exerts a protective action. Skimmed milk powder diets, upon which rats are sterile, were so changed by the addition of water and administering cod liver oil separately that fourth generation young have now been obtained. These results indicate that some of the conclusions previously drawn relative to the existence of vitamin E are now no longer tenable. The mere addition of water to a highly desiccated diet may markedly influence its nutritive value.

A Study of the Nutritive Value of Gelatin. By Thos. B. Downey. 24 pages. *Jour. of Metabolic Research*, Morristown, N. J.

Oil of Wintergreen Poisonous. *Sci.* V. 63, No. 1641, p. XIV. Oil of wintergreen commonly used as a flavoring in chewing gum and various confections as well as in certain salves and liniments is extremely poisonous when taken internally even in moderate doses. Drs. N. C. Wetzel and J. D. Nourse report that quantities of less than two fluid ounces have resulted in death. The toxic effects of this familiar drug, in frequent use by confectioners and in medical practice, seem not to have been generally recognized. They are ascribed to the fact that oil of wintergreen after being taken into the body undergoes very little chemical destruction or breaking up into less dangerous compounds. Editorial comment in the *Journal of American Medical Association* says that from the standpoint of public welfare "access to oil of wintergreen should be made impossible for children and persons ignorant of its poisonous properties."

Sterilization by Oxygen. *Sci.* V. 63, No. 1641, p. X. A process for the sterilization and preservation of fruit juices without the deleterious effects of heat on their delicate flavors has recently been perfected by Dr. L. R. Cleveland of the Harvard University Medical School. Dr. Cleveland states that by the use under pressure of the ordinary commercial oxygen gas sold in cylinders for welding and other chemical purposes, he can destroy all germs and other micro-organisms in periods of from 12 hours to four or five days, depending upon the nature and quantity of juice under treatment and the amount of pressure used. In bulk, the juices can be enclosed in strong steel drums or barrels, the oxygen run into them up to the proper pressure, and the whole stored away indefinitely. In smaller quantities, as in bottles or cans, the containers can be placed in a pressure tank, and then sealed or capped under sterile conditions in an atmosphere of pure oxygen.

While the process is fatal to all microbes if continued long enough, Dr. Cleveland has found that the pathogenes, or disease-causing germs, are the easiest destroyed. High pressures or long exposed periods kill the germs completely, while less drastic treatment will leave them alive but unable to multiply; that is, it will preserve the material without absolutely sterilizing it.

Dr. Cleveland did not discover this process suddenly; it came as the result of a long series of experiments. The first inkling of the principle underlying this new method of preserving fruit juices was discovered while he was studying the minute, one-celled animals or protozoa that live in the digestive tracts of termites or white ants. Turning from the study of the killing effect of oxygen on parasitic micro-organisms, Dr. Cleveland found that it was possible to kill such organisms as bacteria, molds and yeasts living free in nature by confining them in oxygen under pressure. This suggested the query "Is it possible, without rendering food unwholesome, to kill the micro-organisms which cause it to spoil?" The work on fruit juices is an answer to this question.

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